

EXHIBIT B

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Applicants: Peter David East and Susan Elizabeth Brown
U.S. Serial No.: 10/590,539
Filed: May 30, 2007 (\$371)

APR 28 2009

Listing of Claims

1. (Currently Amended) A substantially purified peptide which comprises a sequence selected from the group consisting of:
 - i) an amino acid sequence as provided in SEQ ID NO:4,
 - ii) an amino acid sequence which is at least 80% identical to SEQ ID NO:4,
 - iii) an amino acid sequence as provided in SEQ ID NO:5,
 - iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
 - v) an amino acid sequence as provided in SEQ ID NO:48,
 - vi) an amino acid sequence which is at least 80% identical to SEQ ID NO:48,
 - vii) an amino acid sequence as provided in SEQ ID NO:53,
 - viii) an amino acid sequence which is at least 80% identical to SEQ ID NO:53,
 - ix) a biologically active fragment of any one of i) to viii), and
 - x) a precursor comprising the amino acid sequence according to any one of i) to ix),wherein the peptide, ~~or fragment thereof~~, exhibits antifungal and/or antibacterial activity.

2-4. (Deleted)

5. (Previously Presented) The peptide of claim 1 which is fused to at least one other polypeptide/peptide sequence.
6. (Currently Amended) An isolated polynucleotide, the polynucleotide comprising a sequence selected from the group consisting of:
 - i) a sequence of nucleotides provided in SEQ ID NO:9 or SEQ ID NO:10;
 - ii) a sequence of nucleotides provided in SEQ ID NO:11;

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- iii) a sequence of nucleotides provided in SEQ ID NO:12;
- iv) a sequence of nucleotides provided in SEQ ID NO:13;
- v) a sequence of nucleotides provided in SEQ ID NO:50;
- vi) a sequence of nucleotides provided in SEQ ID NO:51;
- vii) a sequence of nucleotides provided in SEQ ID NO:55;
- viii) a sequence of nucleotides provided in SEQ ID NO:56;
- ix) a sequence encoding a peptide comprising a sequence selected from the group consisting of: according to claim 1;
 - a) an amino acid sequence as provided in SEQ ID NO:4,
 - b) an amino acid sequence which is at least 80% identical to SEQ ID NO:4,
 - c) an amino acid sequence as provided in SEQ ID NO:5,
 - d) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
 - e) an amino acid sequence as provided in SEQ ID NO:48,
 - f) an amino acid sequence which is at least 80% identical to SEQ ID NO:48,
 - g) an amino acid sequence as provided in SEQ ID NO:53,
 - h) an amino acid sequence which is at least 80% identical to SEQ ID NO:53,
 - i) a biologically active fragment of any one of i) to viii), and
 - j) a precursor comprising the amino acid sequence according to any one of i) to ix);
- x) a sequence of nucleotides which is at least 80%663 identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;
- xi) a sequence of nucleotides which is at least 80%718

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identical to SEQ ID NO:11 or SEQ ID NO:13;
xii) a sequence of nucleotides which is at least 80%62% identical to SEQ ID NO:50, or SEQ ID NO:51; and
xiii) a sequence of nucleotides which is at least 80%62% identical to SEQ ID NO:55, or SEQ ID NO:56, and
xiv) a sequence which ~~hybridizes to any one of (i) to (viii) under high stringency conditions.~~
wherein the polynucleotide encodes a peptide exhibiting antifungal and/or antibacterial activity.

7. (Deleted)
8. (Previously Presented) A vector comprising the polynucleotide of claim 6.
9. (Previously Presented) A host cell comprising the polynucleotide of claim 6.
10. (Previously Presented) The host cell of claim 9 which is a plant cell.
11. (Currently Amended) A process for preparing a substantially purified peptide which comprises a sequence selected from the group consisting of:
 - i) an amino acid sequence as provided in SEQ ID NO:4,
 - ii) an amino acid sequence which is at least 80%60% identical to SEQ ID NO:4,
 - iii) an amino acid sequence as provided in SEQ ID NO:5,
 - iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
 - v) an amino acid sequence as provided in SEQ ID NO:48,
 - vi) an amino acid sequence which is at least 80%70% identical to SEQ ID NO:48,
 - vii) an amino acid sequence as provided in SEQ ID NO:53,

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viii) an amino acid sequence which is at least 80%70% identical to SEQ ID NO:53,

ix) a biologically active fragment of any one of i) to viii), and

x) a precursor comprising the amino acid sequence according to any one of i) to ix),
wherein the peptide, ~~or fragment thereof~~, exhibits antifungal and/or antibacterial activity, the process comprising cultivating a host cell according to claim 9 under conditions which allow expression of the polynucleotide encoding the peptide, and recovering the expressed peptide as a substantially purified peptide.

12. (Previously Presented) A composition comprising a peptide of claim 1, and one or more acceptable carriers.

13. (Previously Presented) A composition comprising a polynucleotide according to claim 6, and one or more acceptable carriers.

14. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus and/or a bacteria, the method comprising exposing the fungus and/or bacteria to a peptide of claim 1.

15. (Currently Amended) A transgenic plant, the plant having been transformed with a polynucleotide according to claim 6, wherein the plant produces a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
- ii) an amino acid sequence which is at least 80%60% identical to SEQ ID NO:4,
- iii) an amino acid sequence as provided in SEQ ID NO:5,
- iv) an amino acid sequence which is at least 80%

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identical to SEQ ID NO:5,
v) an amino acid sequence as provided in SEQ ID NO:48,
vi) an amino acid sequence which is at least 80%
identical to SEQ ID NO:48,
vii) an amino acid sequence as provided in SEQ ID NO:53,
viii) an amino acid sequence which is at least 80%
identical to SEQ ID NO:53,
ix) a biologically active fragment of any one of i) to
viii), and
x) a precursor comprising the amino acid sequence
according to any one of i) to ix),

wherein the peptide, ~~or fragment thereof~~, exhibits antifungal
and/or antibacterial activity.

16. (Previously Presented) A method of controlling fungal and/or
bacterial infections of a crop, the method comprising
cultivating a crop of transgenic plants of claim 15.

17. (Currently Amended) A transgenic non-human animal, the animal
having been transformed with a polynucleotide according to
claim 6, wherein the animal produces a peptide which comprises
a sequence selected from the group consisting of:

i) an amino acid sequence as provided in SEQ ID NO:4,
ii) an amino acid sequence which is at least 80%
identical to SEQ ID NO:4,
iii) an amino acid sequence as provided in SEQ ID NO:5,
iv) an amino acid sequence which is at least 80%
identical to SEQ ID NO:5,
v) an amino acid sequence as provided in SEQ ID NO:48,
vi) an amino acid sequence which is at least 80%
identical to SEQ ID NO:48,
vii) an amino acid sequence as provided in SEQ ID NO:53,
viii) an amino acid sequence which is at least 80%
identical to SEQ ID NO:53,

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ix) a biologically active fragment of any one of i) to viii), and
x) a precursor comprising the amino acid sequence according to any one of i) to ix),
wherein the peptide, ~~or fragment thereof,~~ exhibits antifungal and/or antibacterial activity.

18. (Previously Presented) A method of treating or preventing a fungal and/or bacterial infection in a patient, the method comprising administering to the patient a peptide of claim 1.

19. (Deleted)

20. (Previously Presented) An antibody which specifically binds a peptide of claim 1.

21. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus, the method comprising exposing the fungus to a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence as provided in SEQ ID NO:17,
- iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- iv) an amino acid sequence which is at least 75% identical to any one of i) to iii),
- v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
- vi) an amino acid sequence which is at least 50% identical to v), and
- vii) a biologically active fragment of any one of i) to vi).

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22. (Deleted)

23. (Previously Presented) A method of controlling fungal infections of a crop, the method comprising cultivating a crop of transgenic plants which produce a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence comprising residues 25 to 66 of SEQ ID NO:16,
- iii) an amino acid sequence as provided in SEQ ID NO:17,
- iv) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- v) an amino acid sequence which is at least 75% identical to any one of i) to iv),
- vi) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
- vii) an amino acid sequence which is at least 50% identical to vi), and
- viii) a biologically active fragment of any one of i) to vii).

24. (Deleted)

25. (Previously Presented) A method of treating or preventing a fungal infection in a patient, the method comprising administering to the patient a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence as provided in SEQ ID NO:17,
- iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- iv) an amino acid sequence which is at least 75%

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- identical to any one of i) to iii),
- v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
- vi) an amino acid sequence which is at least 50% identical to v), and
- vii) a biologically active fragment of any one of i) to vi).

26. (Deleted)

27. (Previously Presented) A kit comprising a peptide of claim 1.

28. (New) The substantially purified peptide of claim 1 which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,
- ii) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,
- iii) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,
- iv) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,

wherein the peptide exhibits antifungal and/or antibacterial activity.

29. (New) The isolated polynucleotide according to claim 6, the polynucleotide comprising a sequence selected from the group consisting of:

- i) a sequence encoding a peptide comprising a sequence selected from the group consisting of:
 - a) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,
 - b) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,

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- c) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,
- d) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,
- ii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;
- iii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:11 or SEQ ID NO:13;
- iv) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:50, or SEQ ID NO:51; and
- v) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:55, or SEQ ID NO:56,

wherein the polynucleotide encodes a peptide exhibiting antifungal and/or antibacterial activity.